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INTERNATIONAL
GASOLINE
TRACTORS

INTERNATIONAL HARVESTING COMPANY
CHICAGO, ILL. U.S.A.
LONDON, ENGLAND

INTERNATIONAL GASOLINE TRACTORS



GASOLINE ENGINE POWER is conceded to be the most practical and up-to-date farm power, not only for stationary and portable purposes, but also for traction purposes. Within the past few years gasoline tractors have reached that point in their development where they can no longer be considered experimental. They are in every sense of the word immensely practical. From many standpoints the International gasoline tractor is far more desirable than a steam tractor—it is more efficient, economical and convenient. It operates without smoke, steam, sparks or soot, and without the expense of men and teams to haul coal and water. There is no danger from freezing in cold weather and there is no danger of boiler explosions through lack of proper care. There is no loss of time to raise steam. It is not necessary to get up at four o'clock in the morning to build a fire, or travel four or five miles to avoid bridges over which it would not be safe to take a steam outfit. The International gasoline tractor can be run without a special licensed engineer—anyone of ordinary intelligence should be able within a short time to operate the tractor successfully, remove and replace parts for cleaning and adjustment.

There can be no question of the efficiency of International tractors. For delivering power from the belt to operate threshers, shellers, shredders and other machines, for plowing or for hauling heavy loads, these tractors are admittedly the most successful. They have been awarded first prizes in every contest in which they have been entered, both in this country and abroad. The unparalleled successes of International tractors in these contests are outlined on the following pages.

Our local agent will be pleased to give you information regarding International tractors, or, if you prefer, address us direct for full particulars.

INTERNATIONAL HARVESTER COMPANY OF AMERICA

(Incorporated)

Catalogue 166

CHICAGO, " " " " " U. S. A.



INTERNATIONAL GASOLINE TRACTORS



THE CONQUEST OF THREE NATIONS

International gasoline tractors go to the farmer figuratively decorated with the medals of France, Canada and the United States.

During the past year these tractors have swept all before them in actual field tests to determine which engine of these nations really stood first in economy of operation, in effectiveness of power, and in range of practical usefulness.

At Winnipeg and Brandon they proved that a 15-horse power International gasoline tractor could plow an acre in an hour and a quarter, with a gallon and a half of gasoline, and that a 20-horse power International gasoline tractor could plow over two acres in less than two hours, with less than two and a half gallons of gasoline. They also proved that they were the only ones in the contest that could do this.

At Aurora, Ill., International gasoline tractors proved that even on smaller farms they are more economical than horses.

At Amiens, France, they turned the current of prejudice against tractor plowing to a spirit of enthusiasm for it. One year ago, at Bourges, France, continental tractors made an abject failure of a similar contest, and the French farmer believed such plowing impracticable. The International tractor stood every test required of it and convinced all Europe.



INTERNATIONAL GASOLINE TRACTORS



A SEASON'S VICTORIES

A series of unparalleled successes has been accredited to International gasoline tractors. In plowing and hauling contests in this country and abroad, they have universally won first prizes. They have demonstrated time and again, under the most severe conditions, that they are the best available power for plowing purposes.

In the Farm Motor Competition held at Winnipeg, Manitoba, July 7th to 17th, International tractors were awarded five prizes, one being the sweepstakes gold medal for scoring the highest number of points. This tractor scored 115 points out of a possible 145, which stamped it as being the best all 'round farm tractor. The trials at this Winnipeg competition included very severe brake tests, hauling tests and plowing tests. International tractors were first in classes A and B, winning in addition, prizes in two other classes, and the sweepstakes medal. The 15-horse power gear drive type A, pulled three 12-inch sod plows and used the small amount of $1\frac{5}{10}$ imperial gallons of gasoline per acre. The 20-horse power gear drive type C, pulled four 14-inch sod plows, and only consumed $2\frac{1}{10}$ imperial gallons of gasoline per acre.

The low fuel consumption of these tractors in the Winnipeg trials, insures minimum cost per acre for plowing. Below are the records made in the plowing and hauling contests:

In the Winnipeg Farm Motor Plowing Contest, the

International 15-H. P.	pulled 3-12-inch sod plows, plowing 1.09 acres in 75.5 min., using 1.5 imp. gallons gasoline per acre.
Avery Truck 12	" " 2-14 " " " " 1.06 " " 85 " " 3.36 " " " " " "
Russell 20	" " 4-14 " " " " 1.7 " " 121.5 " " 4.66 " " " " " "
International 20	" " 4-14 " " " " 2.17 " " 117 " " 2.4 " " " " " "
Kinnard 30	" " 6-14 " " " " 2.55 " " 101 " " 2.41 " " " " " "
Gas Tractor 25	" " 6-14 " " " " 1.27 " " 44.25 " " 3.77 " " " " " "

In the Winnipeg Farm Motor Hauling Contest, the

International 20-H. P.	hauled 29,970 lbs. 123 min., using 4.95 imp. gal. of gasoline, hauling 10,050 foot-pounds per unit of fuel.
" 15	" " 13,370 " 105.5 " " 3.64 " " " " " " 9,940 " " " " " "
Gas Tractor 25	" " 21,090 " 96 " " 11 " " " " " " 6,030 " " " " " "
Russell 20	" " 20,800 " 79.16 " " 6.18 " " " " " " 6,787 " " " " " "
Kinnard 30	" " 19,480 " 98 " " 6.93 " " " " " " 8,336 " " " " " "
Marshall 25	" " 26,000 " 108.5 " " 12.14 " " " " " " 8,035 " " " " " "



Following the winner at Winnipeg—the International tractor making a record in the Plowing Contest

Winnipeg Industrial Exhibition.
1909

Gold Medal

Awarded to International Harvester Co.
of Winnipeg, Ill. etc.

For Motor Competition International Exposition 20th Dec
#1 to 30th Dec #18

Class 231 Section A. Entry
Adams President
C. S. Bell Manager

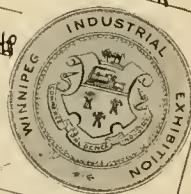


Winnipeg Industrial Exhibition.
1909

Gold Medal

Awarded to International Harvester Co.
of Winnipeg, Ill. etc.

For Motor Competition International Exposition 21 to 30 Dec #18
Section B. Entry
Adams President
C. S. Bell Manager



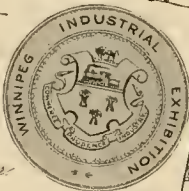
Winnipeg Industrial Exhibition.
1909

Bronze Medal

Awarded to International Harvester Co.
of Winnipeg, Ill. etc.

For Motor Competition International Exposition 20th Dec
#1 to 30th Dec #18

Class 231 Section A. Entry
Adams President
C. S. Bell Manager



Winnipeg Industrial Exhibition.
1909

Bronze Medal

Awarded to International Harvester Co.
of Winnipeg, Ill. etc.

For Motor Competition International Exposition 21 to 30 Dec #18
Class 231 Section B. Entry
Adams President
C. S. Bell Manager





INTERNATIONAL GASOLINE TRACTORS



In the Farm Motor Contests held at Brandon, Manitoba, International tractors won three medals.

In the plowing contest held at Aurora, Ill., September 18, 1909, the International tractor won the loving cup offered by the Wheatland Plowing Association.

These successes in Canada and the United States were crowned by the victories of International tractors in the plowing competition which took place in October, 1909, at Amiens, France, which was open to all comers and all nations. In this contest an International tractor won the cash premium of 2,000 francs offered by the Automobile Club of France, for the tractor doing the best work. In addition, a diploma of honor and two gold medals were awarded the company.

The conditions of this competition were the most severe ever imposed in any contest. The tractor was required to work two consecutive days without stopping a single instant. An International tractor performed this task under the most difficult conditions, to the entire satisfaction of the special committee appointed by the Automobile Club.

The tractors winning the prizes in all of these contests, both at home and abroad, are not "de luxe" engines built especially for these trials. They are every-day stock engines such as are delivered to purchasers.



Following the International Tractor at Amiens, France



The winner in the Wheatland plowing contest at Aurora, Ill.



THE MODERN REVOLUTION IN PLOWING

Since the days of the prehistoric savage, the hardest task in producing the breadstuffs of the world has been tilling the soil. Through all these ages the basic operation in making a crop has been turning the sod—what we now call plowing. This in its turn is the most laborious factor in tillage. The earliest records of civilization show that the first known plow was simply a form of hoe made from a crooked stick sharpened to scratch the soil as it was pulled along. Still earlier relics found in geological deposits indicate that a pointed stone was used in the same manner. The pulling power was the human hand—generally that of a woman.

Three thousand years ago scriptural history records that the Israelites used a plow with a point shod with iron. One thousand years later, Virgil describes a plow made of two pieces of wood joined at an acute angle, plated with iron. The motive power back of these primitive plows was the ox, guided by the hands of slaves.

Until one hundred years ago, but little progress was made in the general shape and form of this plow, and no progress at all in the means of propulsion. At that time, when the vision of steam power was dawning, an all iron plow with a share was invented. This plow, with modifications, is the one used at the present time.

Thus the severest toil of the ancients has remained the severest toil of to-day. The only difference is that the horse is sharing the burden of the ox. But plowing in general is still done by animal power, the same as when David was a shepherd lad, and when Cincinnatus farmed outside of Rome.

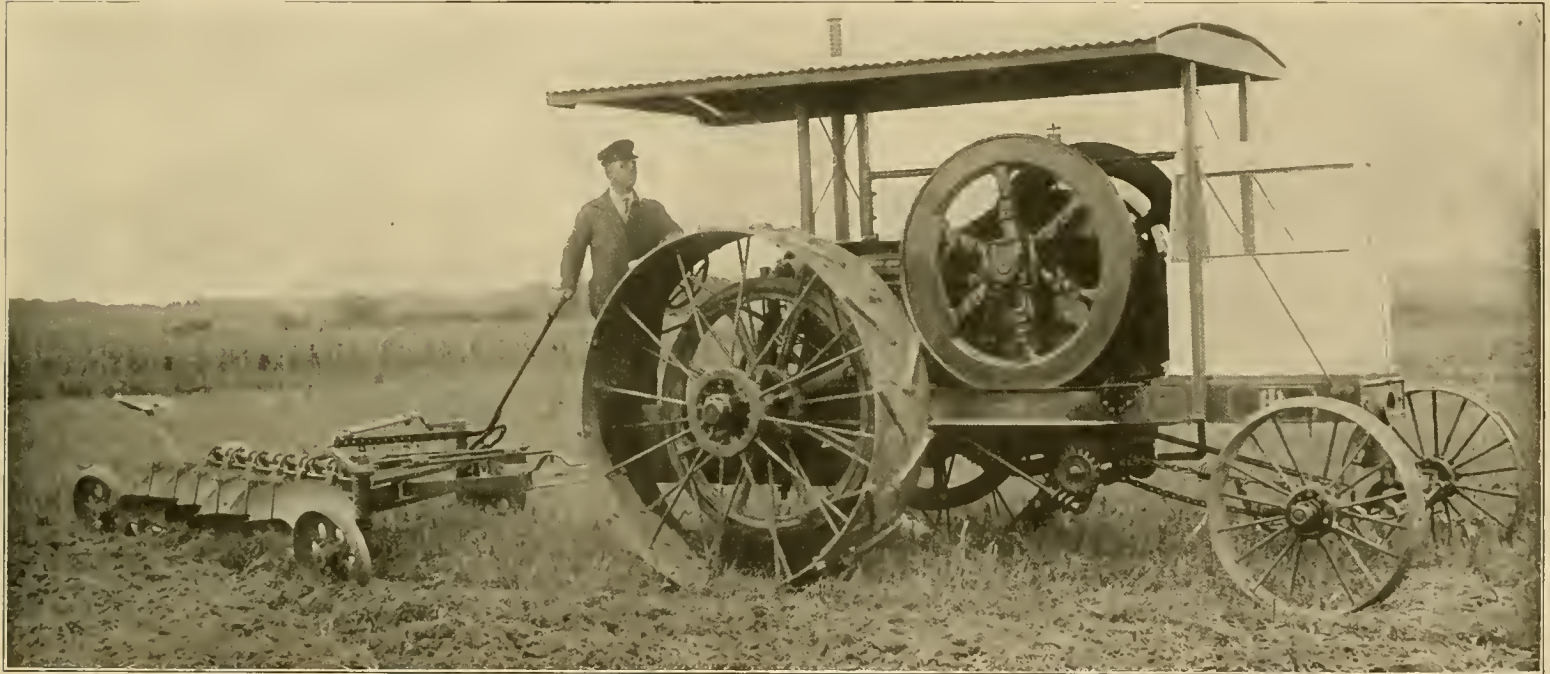
To plow an acre of land means that it is necessary to turn eight miles of ordinary furrow. To plow a square mile requires 5200 miles of furrow. To plow a tract five miles square requires a furrow which would reach around the earth at the equator. Is it any wonder that the dusty, monotonous turning of the furrow is the severest drudgery for both man and animal?

But with the advent of the twentieth century, the farmer, educated to the labor-saving value of the self-binder, alive to the commercial gain of the threshing machine, grown rich by the advance of harvesting methods, has turned his attention to newer, cheaper and better ways of preparing his seed beds. Animal power which has served man so faithfully during the generations which are past, is being displaced by a more modern, more efficient and less arduous mechanical power.

Intensive farming and the opening of new wheat lands have made this necessary in order to supply the ever increasing demand of civilization for wheat and foodstuffs. The modern farmer, instead of following the endless furrow of his grandfather's plow, has begun to adopt new scientific methods of tilling the soil. Animal power has proved inadequate. The animal must be fed whether at work or at rest; mechanical power consumes fuel only when actually working. Animals can be worked only ten hours a day, then fed and rested; mechanical power can be worked twenty-four hours a day, and every day.



INTERNATIONAL GASOLINE TRACTORS



International 20-horse power type C gear drive tractor pulling a six-disk plow

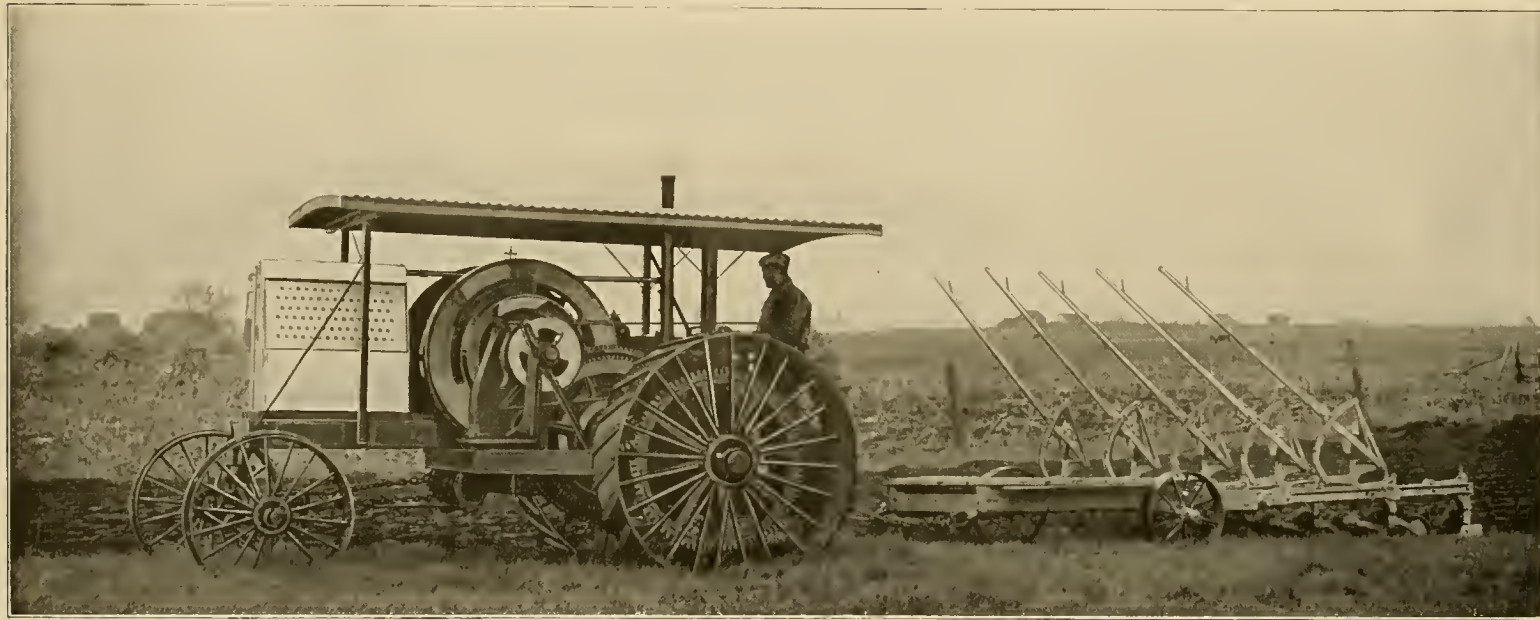
It is difficult for one man to control many animals, whereas one man, with mechanical power has in his grasp the power of any number of animals. Animals grow old whether they are working or not, but mechanical power with proper care will not depreciate to any extent.

The horse and the ox and the plow handle has each seen its day, and the man behind the plow is entering a new era of progress.

Inventive geniuses and gas engine experts have centered their ability and efforts on this all-important problem—the result has been several types of steam and gasoline tractors designed to overcome the shortcomings of animal power. Of these mechanical powers, one has demonstrated to the agricultural world by actual work in the field that it most closely approaches the ideal mechanical farm power. That power is the International Gasoline Tractor.



INTERNATIONAL GASOLINE TRACTORS



International type B tractor pulling a five-furrow sod bottom engine plow

ADVANTAGES OF INTERNATIONAL GASOLINE TRACTORS

Farmers who own steam outfits complain of the excessive cost, and for good reasons, because a steam outfit requires two men on the engine, one man on the plow, one man and team hauling water and one man and team hauling coal.

International gear drive tractors have many advantages over all other powers for plowing purposes.

First, one man can operate the tractor.

Second, the consumption of gasoline is less per acre than on any other gasoline tractor.

Third, the International tractor can be turned around in less space than any other.

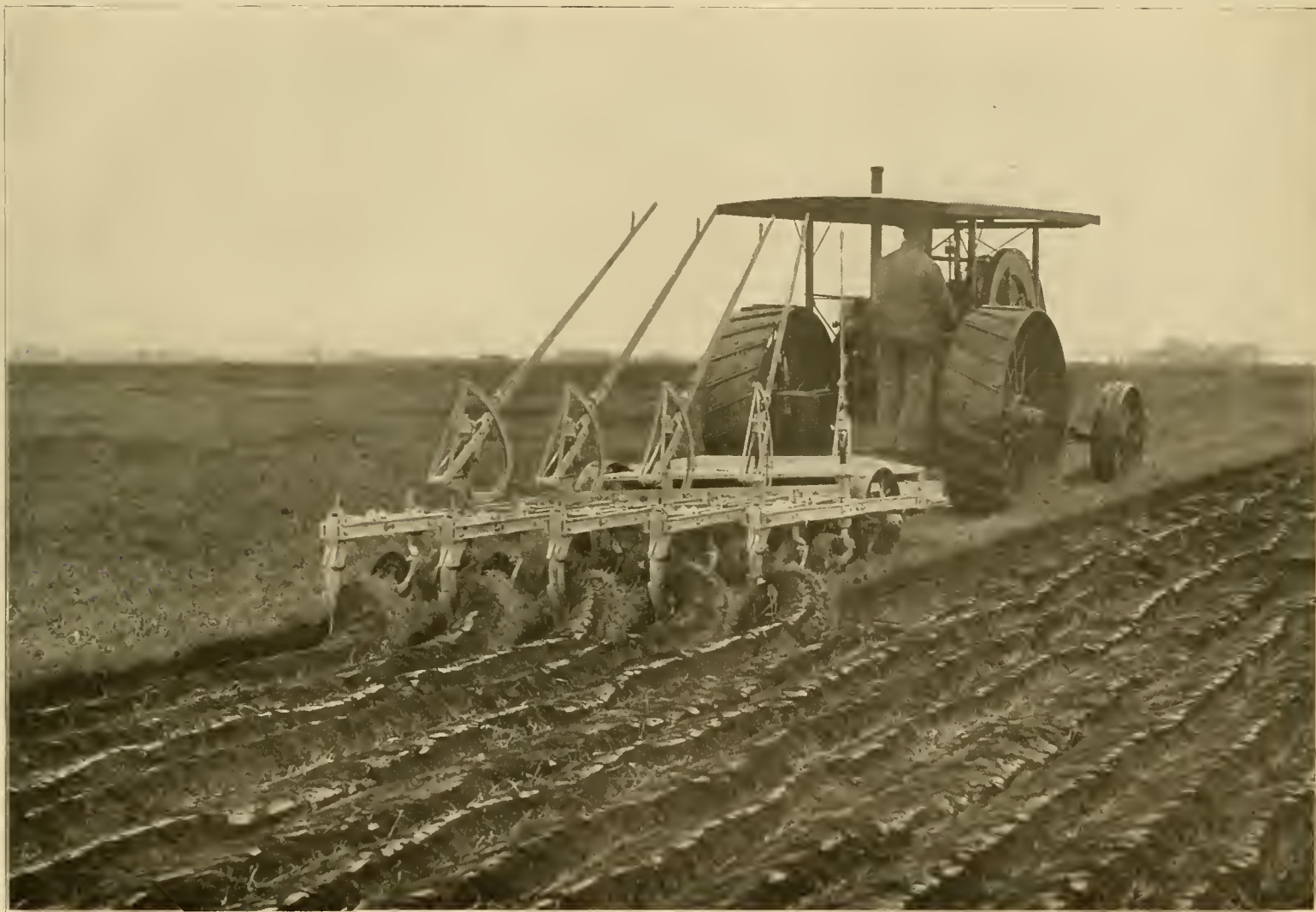
Fourth, the International tractor will carry one day's supply of fuel and water, so that there is no waste of time taking on fuel.

Fifth, it can be used in many places where steam outfits cannot be used because of their excessive weight.

Sixth, the tractor is light, easily operated, and the price is reasonable.



INTERNATIONAL GASOLINE TRACTORS



International type B tractor pulling a five-furrow sod bottom engine plow



INTERNATIONAL GASOLINE TRACTORS



International 20-horse power type C Tractor pulling five 14-inch bottom plows. Getting ready for work



INTERNATIONAL GASOLINE TRACTORS



International 20-horse power type C tractor pulling five 14-inch bottom plows. Working with all levers adjusted



INTERNATIONAL GASOLINE TRACTORS



TYPES OF INTERNATIONAL TRACTORS

International gasoline tractors are made in three types—A, B and C; and in three sizes—12, 15 and 20-horse power.

TYPE A TRACTORS—Type A tractors are made in three sizes: 12, 15 and 20-horse power. All tractors of this type have the stub axle construction, which, in fact, is the distinguishing feature of Type A.

The 12-horse power tractor has two speeds forward and friction reverse, while the 15 and 20-horse power tractors have one speed forward and gear reverse.

TYPE B TRACTORS—Type B tractors are made in one size only: 20-horse power. The distinguishing features of this type are the continuous axle construction and gear drive forward and reverse.

TYPE C TRACTORS—This tractor also has a continuous axle construction, but it has larger drive wheels than the type B, and there is a difference in the method of power transmission. On type C tractors the drive forward is by gears, while the reverse is accomplished by the use of friction pulleys.

On page 32 will be found complete specifications of all International tractors.

ENGINE

All International tractors—types A, B and C—are alike, in that the engine proper is the Famous mounting engine. The difference between the various types is in the traction truck or mounting and the method of power transmission.

Famous mounting engines used for mounting on International traction trucks have been sold in such large numbers throughout the country for some years and have given such universal satisfaction that it is hardly necessary to go into detail regarding their construction.

The success of the Famous engine is due to its correct mechanical design, its simplicity and its durable construction.

The design of these engines is the result of years of study on the part of engine experts who investigated both foreign and domestic engines of all kinds. The result was that in designing the Famous engine they knew which features of merit to incorporate and which troublesome features to avoid. The cylinder is designed to insure a high compression without liability of loss through inferior valve or piston construction. The smallest number of parts to do the work properly are employed, and these parts are arranged to work with minimum friction. This insures the maximum delivery of power through the crank shaft. The proportions of all parts have been carefully worked out and liberal allowances have been made for unusual strains. The function of each part has been carefully considered and the best material for the purpose selected.



INTERNATIONAL GASOLINE TRACTORS



FAMOUS GASOLINE ENGINES

FOR MOUNTING ON TRACTION TRUCK

CYLINDERS—Cylinder and jacket walls are cast integral. Ample space is given to allow a free circulation of the cooling water.

CYLINDER HEAD—Bolted to the cylinder. The water jackets of the head and the cylinder register.

VALVES—Poppet type. Ground in their seats and held by springs. Seats removable. Valve guides extra long. Valves mechanically operated. The inlet valve check keeps the intake valve automatically closed when the exhaust valve is held open in cases when the speed is above normal.

GOVERNOR—Hit-and-miss governor, fly-wheel type.

STARTING—An extra roller relieves the compression when starting the engine. This makes starting easy.

PISTON—Trunk type, extra long. Turned and carefully ground to size. Provided with lap joint piston rings.

CONNECTING ROD—Drop forged, carefully turned to size. Provided with a divided box on the crank end and an adjustable split bronze bushing for the wrist pin bearing.

CRANK SHAFT—Drop forged, of liberal proportions and turned to exact size.

MAIN BEARINGS—Phosphor bronze, machine finished to gauge, of liberal length and thickness and extra heavy.

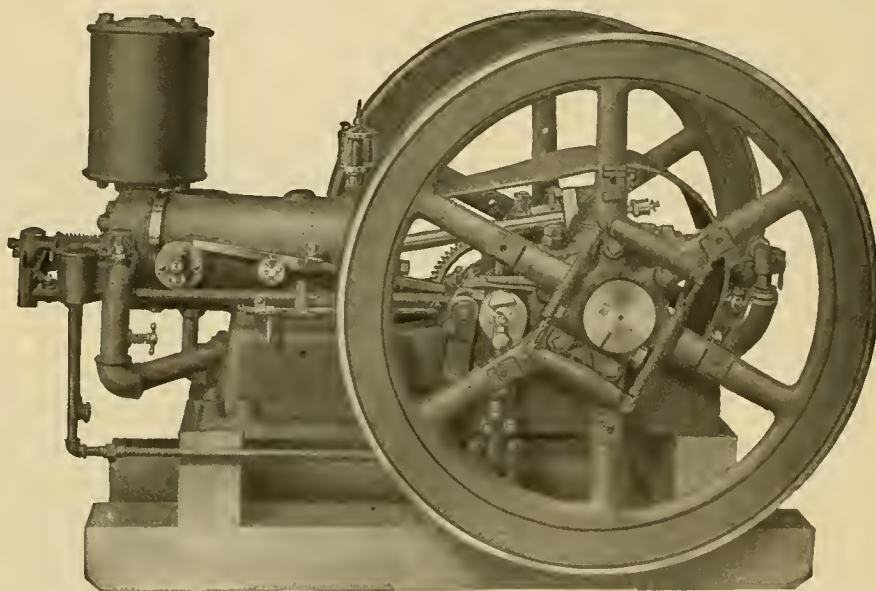
FLY WHEELS—Provided with split hubs, keyed to the crank shaft and clamped by means of bolts running through the hubs.

GASOLINE PUMP—Plunger type with ball valves. No escape of gasoline past the plunger.

MIXER—Nozzle inside of air pipe controlled by a needle valve. Fuel is atomized before it enters the cylinder. Provided with overflow pipe.

IGNITION—Make-and-break ignitor, may be easily removed for cleaning. Electric current from batteries and auto sparker.

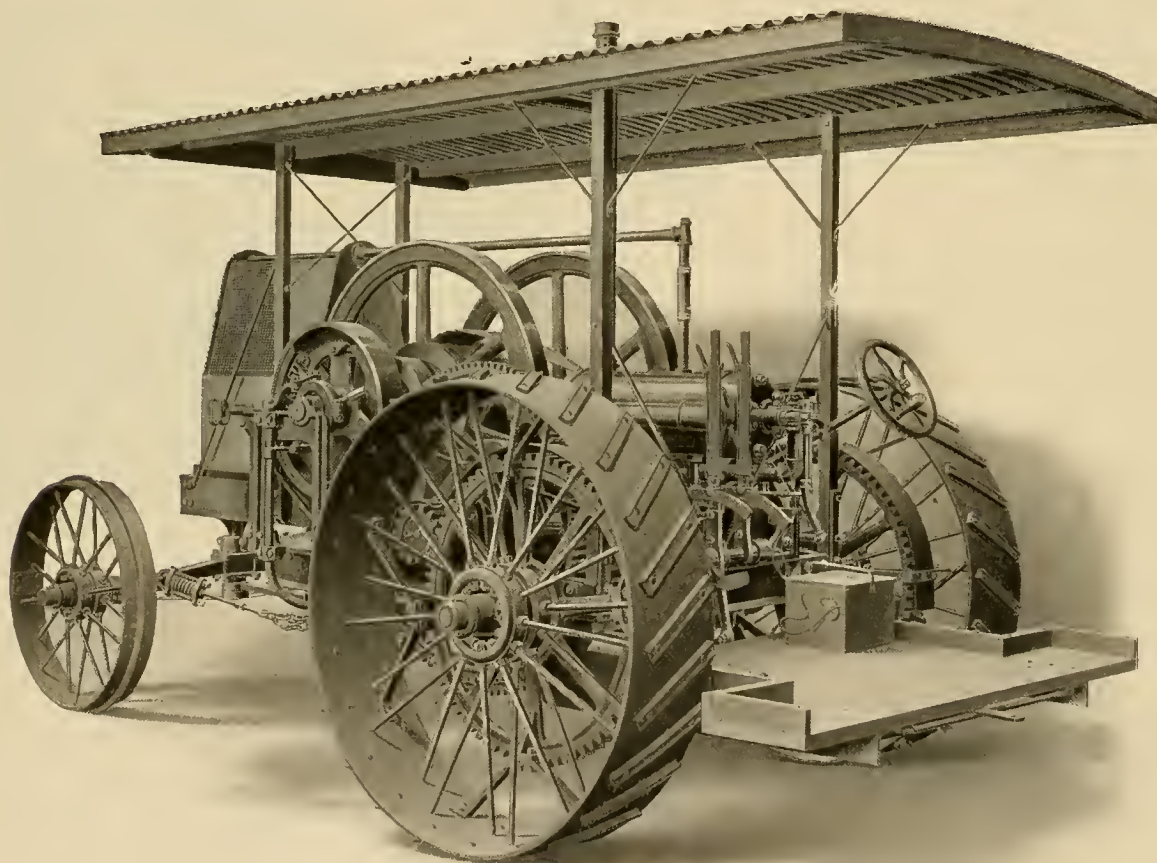
COOLING ARRANGEMENT—Includes a screened cooling tower, plunger type circulating pump and piping.



A Famous Mounting Engine on temporary skids
This is the engine that is regularly mounted on traction trucks



INTERNATIONAL GASOLINE TRACTORS



INTERNATIONAL GEAR DRIVE GASOLINE TRACTOR—TYPE A TWO-SPEED
12-horse power only. Complete specifications will be found on page 32



INTERNATIONAL GASOLINE TRACTORS



TYPE A 12-HORSE POWER TWO-SPEED TRACTOR

The distinguishing features of this tractor are the stub head axle construction and two-speed gear drive forward and friction reverse.

ENGINE—The engine is a regular 12-horse power Famous mounting engine described on pages 12 and 13.

MOUNTING—The engine is mounted on two 7-inch channel steel sills of great strength and durability. To this main frame is bolted the sub-frame, reinforced by two 4 x 4-inch angles to make the frame rigid and prevent twisting, and also to keep all gears and boxes in accurate alignment. At the front end of the main frame is the bolster which connects with the front axle by means of a ball-and-socket. The axle is arched and is provided with very substantial truss rods, making it capable of withstanding any twisting or jarring to which it may be subjected.

The rear axles are of the stub type, and are shrunk into the axle bracket. This construction, together with the set screw which is sunk into the stub, prevents the axles from ever working loose.

DRIVE WHEELS—The drive wheels are 56 inches in diameter, and have a 16-inch face. They are of the suspension type, the same as used on the 15 and 20-horse power type A, and 20-horse power type B tractors. To this 16-inch face are riveted cleats which provide ample traction when going through mud or over soft ground. Extra mud lugs are also provided to be used when working in extremely bad conditions.

TRANSMITTING POWER FOR FORWARD SPEEDS—The power is transmitted from the engine crank shaft to the drive wheels by only two sets of pinions and gears. The two speeds are obtained by two gears on the clutch sleeve located on the engine crank shaft.

When using the slow speed, the smaller gear is selected and moved into mesh with the larger gear on the countershaft. To obtain the fast speed, the small gear is moved out of mesh and the large gear is moved into mesh with the smaller gear on the countershaft. The gears are controlled by hand levers and are provided with notches to hold each gear in its respective place. It is impossible to have two speeds in mesh at one time.

These gears are also arranged so that when the engine is doing belt work, all of the gears may be thrown out of mesh. They then revolve as idle gears with the engine.

The outside of the clutch is adapted for use as a belt pulley, which is stopped and started by means of the same clutch and lever that control the two forward speeds. All bearings are provided with hard oil cups.

FRICTION REVERSE—The reverse is accomplished by means of a friction gear which is mounted on a hollow eccentric. This eccentric is supported at each end by two strong and rigid brackets which eliminate all twisting and binding. The reverse may be thrown in at any time without danger of stripping gears. This method does not require an intermediate gear. By the angle at which the eccentric is set, the pulling of the eccentric gear presses the frictions together and releases the



INTERNATIONAL GASOLINE TRACTORS



pressure on the bearings. Any adjustment of the friction does not change the mesh of the cog. This reverse is operated and controlled by a connecting rod and lever conveniently located.

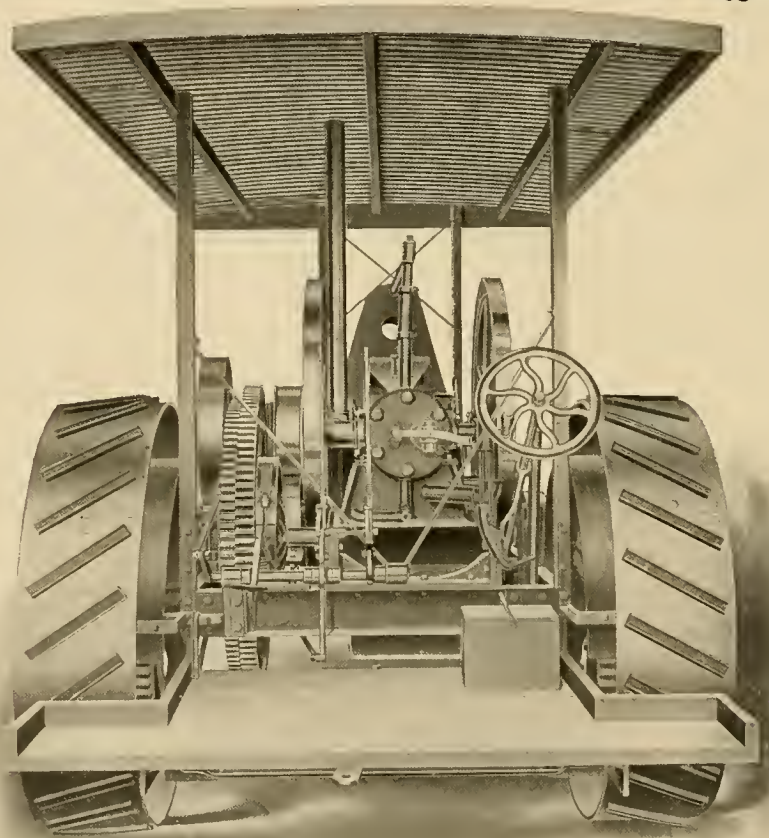
CLUTCH—There is but one clutch employed in the two forward speeds. It is operated by a lever and connecting rod. This clutch is provided with three adjustable shoes which operate on the inner side of the pulley.

CONVENIENCE—The convenience of the operator has been carefully considered in the design of this tractor. The vertical operating levers and the steering wheel are conveniently located. The platform is hung on springs and provides ample room. The large substantial top is covered with corrugated galvanized steel.

ADAPTABILITY—This tractor is adapted for all light work, such as found on the average small farm. It will draw two or three plows. It proves exceptionally satisfactory for operating small threshers, shredders, huskers, shellers and many other machines. The second speed with which it is provided permits the tractor to move these machines the same speed as would a lively team. It is especially adapted for hauling purposes and drawing binders. The friction clutch is smaller in diameter than the regular friction pulley on the opposite side of the engine, so that when this friction clutch is used as a belt pulley, the tractor is actually provided with two pulleys of different diameter, both of which may be used at one time.

EQUIPMENT—An efficient band brake is provided to be operated by foot lever, convenient for the operator.

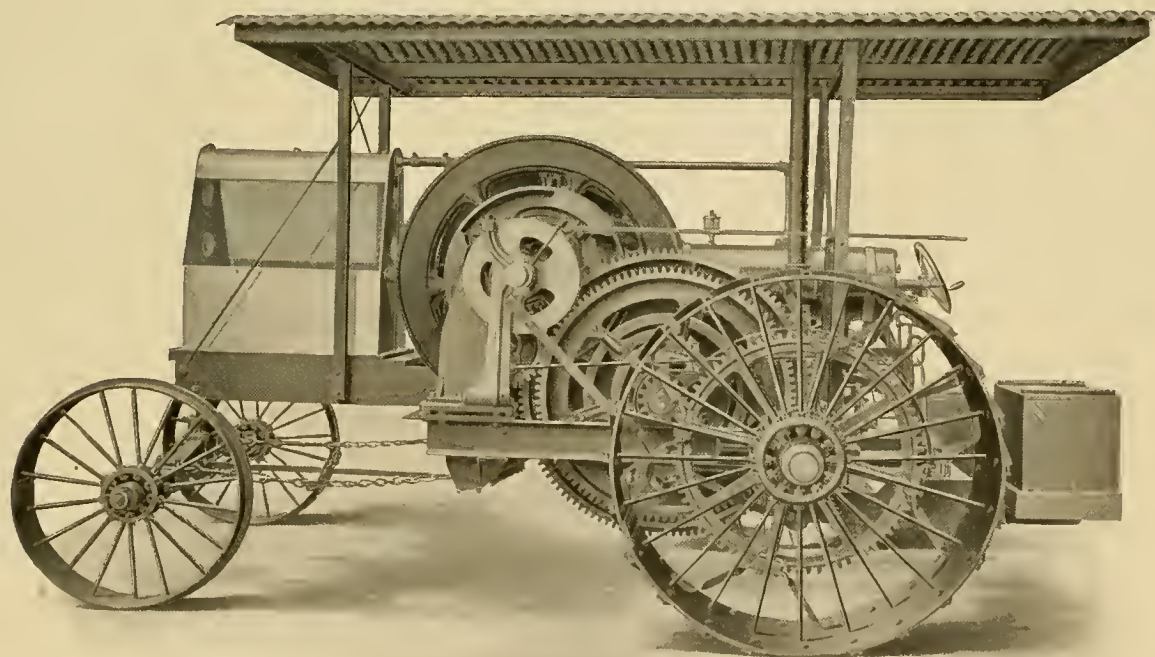
The tractor is regularly equipped with swinging draw bar, springs in the steering chains, mud lugs, spring hitch, auto sparker and speed changing device.



Rear view of the type A 12-horse power, two-speed tractor. Note the large roomy platform and the convenient location of the operating levers.



INTERNATIONAL GASOLINE TRACTORS



INTERNATIONAL GEAR DRIVE GASOLINE TRACTOR—TYPE A
Made in 15 and 20-horse power sizes. Has 56-inch drive wheels and stub axles
Complete specifications will be found on page 32



INTERNATIONAL GASOLINE TRACTORS



TYPE A GEAR DRIVE TRACTORS

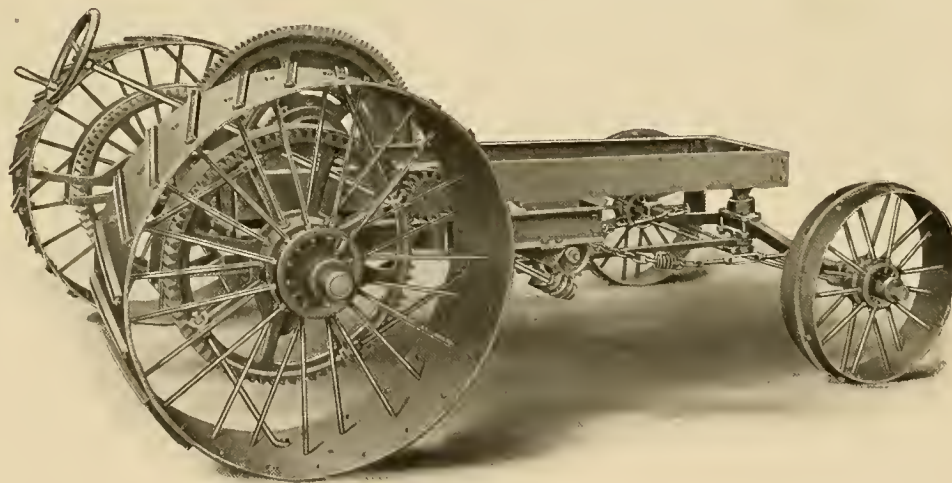
15 AND 20-HORSE POWER

These tractors, like the 12-horse power tractor, have a stub axle construction and 56-inch drive wheels. They have, however, only one speed forward, and the reverse is accomplished by means of gears instead of friction pulleys.

ENGINE—The engine is the regular 15 or 20-horse power Famous gasoline engine. These engines have been sold for a number of years, and are in use throughout the country. They have proven exceptionally practical in design and well built in a thoroughly workmanlike manner. These engines are of the 4-cycle type, with hit-and-miss governor and electric ignition.

COOLING ARRANGEMENT—The cooling arrangement is particularly well adapted to traction engine purposes because only a small amount of water is required. Both the engine and tank may be drained at night to prevent freezing in cold weather. The pump is provided with draincocks and also a grease cup to keep the packing well greased so that it will not absorb moisture and freeze to the plunger head.

A screened cooling tower, plunger type circulating pump and piping comprise the cooling arrangement.



Mounting for the 15-horse power type A tractor



INTERNATIONAL GASOLINE TRACTORS



MOUNTING—The engine is mounted on substantial 7-inch channel steel sills, to which are bolted the sub-frame carrying the stub axle brackets. The sub-frame is reinforced by two 5 x 5-inch angles to make the frame rigid. The front axle is arched and well trussed and is provided with a ball-and-socket connection to the bolster. The rear stub axles are shrunk into the axle brackets so that they are tightly held in place. A set screw sunk into the stub prevents their ever working loose.

DRIVE WHEELS—The drive wheels are of the suspension type, 56 inches in diameter and as shipped regularly have an 18-inch face, to which are riveted heavy cleats. These provide ample traction to go through mud or over soft ground.

GEARS—Power for forward speed is transmitted from the crank shaft through two sets of pinions and gears to the drive wheels. For the reverse, an intermediate gear is brought into action.

The pinion on the crank shaft drives the large differential gear on the countershaft, on each end of which is a pinion for driving the large gears on both of the drive wheels. When reversing the tractor, the reverse clutch is thrown in which operates the intermediate gear meshing with the small gear on the differential.

CLUTCHES—Two special friction clutches are used to transmit power from the crank shaft to the gears. The large forward speed clutch has three shoes, with large friction blocks, which engage the metal surface of the pulley. This gives a positive grip which enables the gears to be started slowly or rapidly. When shifting the lever for reverse, the large clutch is thrown out and the small one for operating the intermediate gear is thrown in.

OPERATING LEVERS—One lever conveniently located operates both forward and reverse drive; shifting the lever to the right operates the forward drive, and shifting it to the left operates the reverse. A rod connecting with the intermediate gear is provided, so that these gears may be thrown out of mesh when the engine is used for plowing or other purposes not requiring the reverse. A foot lever operates the band brake on the differential gear.

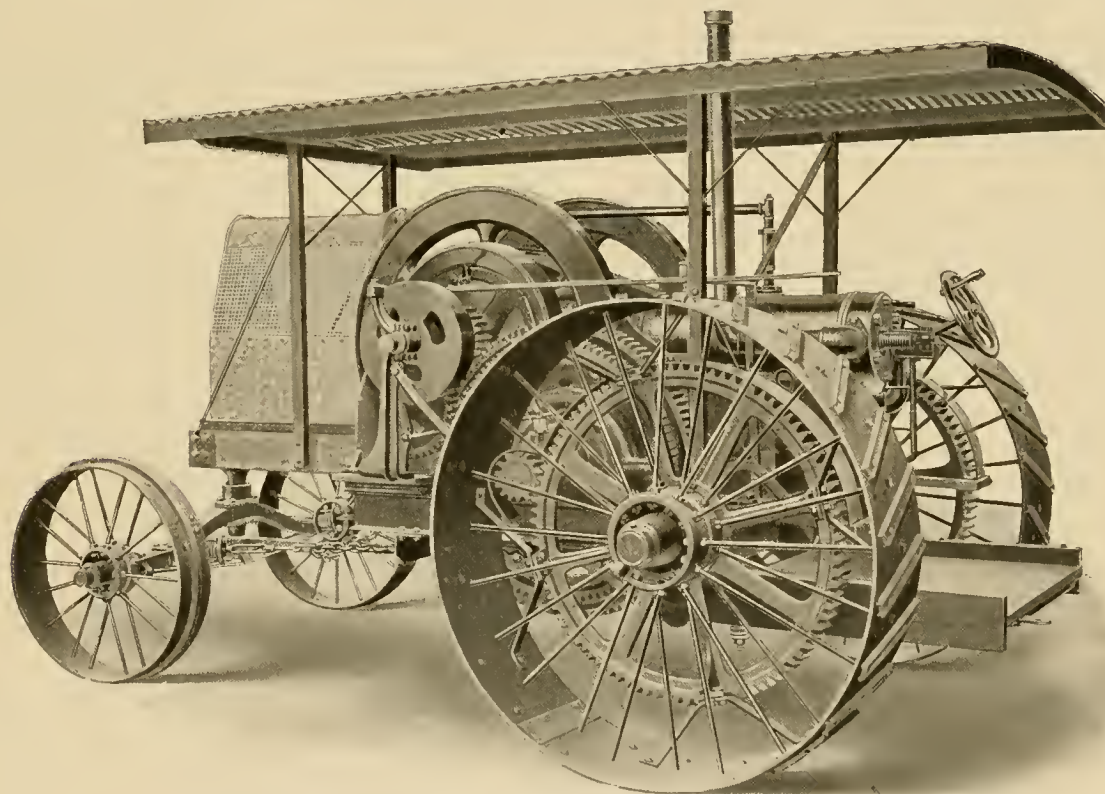
CONVENIENCE—These tractors are very convenient to operate. The platform is hung on springs and is very roomy. The one lever for operating both forward and reverse drive is convenient to the operator, so is the foot lever for operating the band brake. The large substantial top is covered with corrugated galvanized steel.

EQUIPMENT—This tractor is regularly equipped with swinging draw bar, springs in the steering chains, mud lugs, spring hitch, auto sparker and speed changing device.

SPECIFICATIONS—Complete specifications of this tractor will be found on page 32.



INTERNATIONAL GASOLINE TRACTORS



INTERNATIONAL GEAR DRIVE GASOLINE TRACTOR—TYPE B
20-horse power, equipped with continuous axle and 61-inch drive wheels
Complete specifications will be found on page 32



INTERNATIONAL GASOLINE TRACTORS



TYPE B GEAR DRIVE TRACTOR

20-HORSE POWER

This tractor is in many respects like the 15 and 20-horse power type A tractor. The principal difference is in the axle construction and in the diameter of the drive wheels. On the type B, the axle is continuous through both drive wheels, while on the type A, a stub axle construction is used.

MOUNTING—The engine is mounted on 7-inch channel steel sills. These sills are substantially reinforced by angles, to make the frame rigid and prevent twisting. This construction is so substantial that all gears and boxes are maintained in accurate alignment. The bolster at the front connects to the front axle by means of a ball-and-socket connection. The front axle is arched and trussed so that it is capable of withstanding any twisting or jarring which may be encountered.

The rear axle is of square steel 4 x 4 inches, turned at the ends, and is continuous through both of the large powerful drive wheels.

DRIVE WHEELS—The drive wheels are of the suspension type, 64 inches in diameter with an 18-inch face. To this wide face are riveted cleats which provide ample traction to carry the outfit through mud and over soft ground. Extra mud lugs are provided to be used in extremely bad conditions.

ENGINE—The engine is the regular 20-horse power Famous mounting engine, that is, a regular Famous engine without the sub-base. The engine is of the 4-cycle type, provided with the hit-and-miss governor and electric ignition, the current for which is supplied by batteries and an auto sparker.

Famous mounting engines have been sold in such large numbers throughout the country and have given such thorough satisfaction in every instance, that their practicability cannot be questioned.

GEARS—Two sets of pinions and gears transmit power for the forward drive from the crank shaft to the drive wheels. An intermediate gear is brought into action for the reverse.

The pinion on the crank shaft drives the large differential gear on the countershaft. On each end of this shaft is a pinion for driving the large gears on the drive wheels. Driving from each end of the countershaft insures an equal distribution of power to both drive wheels.

When reversing the tractor, the reverse clutch is thrown in, which operates the intermediate gear meshing with the smaller gear on the differential.

CLUTCHES—Two special friction clutches are used to transmit power from the crank shaft to the gears. The large forward speed clutch has three shoes with large friction blocks which engage the metal surface of the pulley. This insures a positive grip which permits the gears to be started slowly or rapidly. When shifting the levers for the reverse, the larger clutch is thrown out and the small one for operating the intermediate gear is thrown in.



INTERNATIONAL GASOLINE TRACTORS



COOLING ARRANGEMENT—The engine is water-cooled. The water is forced through the jacket and over a screen cooling tower by means of a plunger type circulating pump. The galvanized screen may be easily removed from the tower when necessary, and renewed.

One of the most desirable features of this cooling system is the fact that only a small amount of water is required. This cooling system is well adapted for use in cold climates because the engine and tank may be drained at night to prevent freezing. The pump is provided with drain cocks and also with a grease cup to keep the packing well greased so that it will not absorb moisture and freeze to the plunger head.

OPERATING LEVER—A lever conveniently located operates both forward and reverse drive. Shifting the lever to the right operates the forward drive and shifting it to the left operates the reverse. When the engine is used for plowing or for other purposes not requiring the reverse, these gears may be thrown out of mesh by means of a rod connecting with the intermediate gear.

CONVENIENCE—This tractor is exceptionally easy to operate, as the operating lever, foot lever for operating the band brake and the steering wheel are conveniently located at the rear of the engine. The platform is hung on springs and gives ample room for the operator. The top is very large and substantial and is covered with corrugated galvanized steel.

ADAPTABILITY—This tractor has proven entirely satisfactory on the road and in the belt. It will easily handle four 16-inch plows or haul a load of 12,600 pounds. Its speed is fast enough to meet road requirements. It will deliver ample power at the belt to operate the largest huskers and shredders and Belle City threshers.

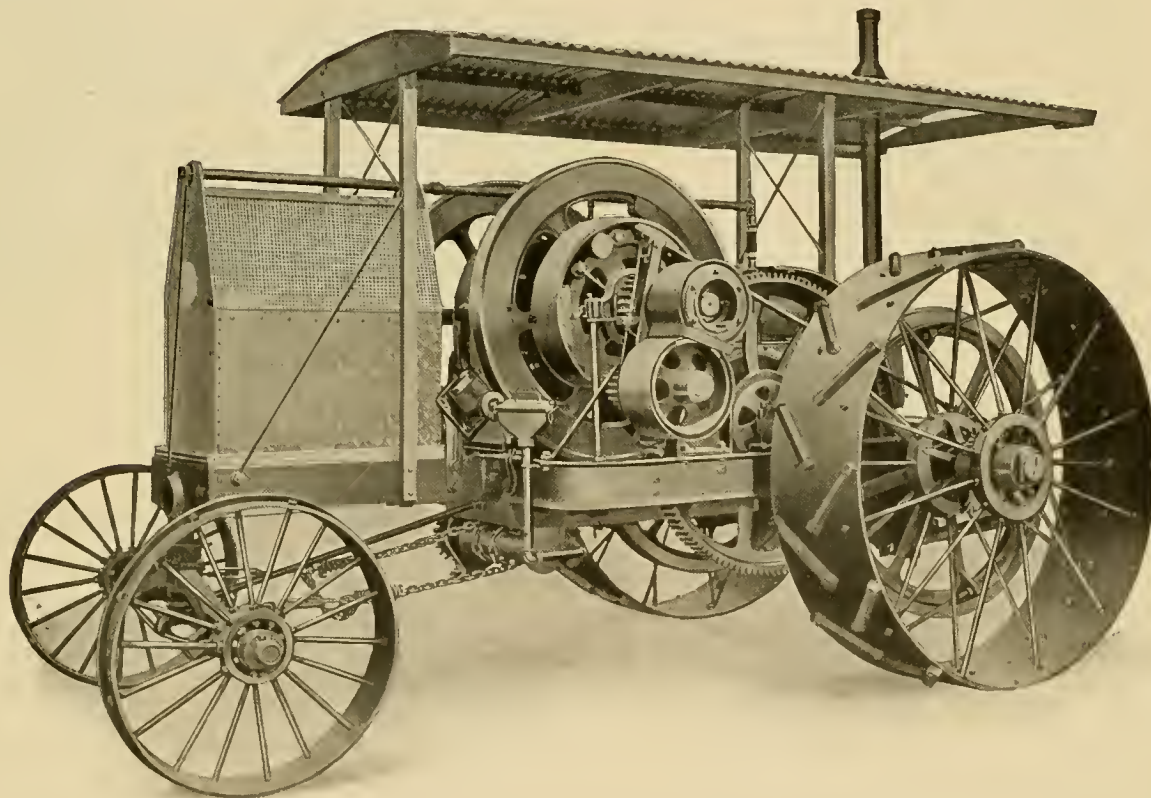
The convenience with which it may be operated should not be overlooked. It does not require constant attention, neither is an experienced operator necessary. When used for plowing one man should be able to handle the tractor easily, and if conditions are right, devote the necessary attention to the plow levers.

EQUIPMENT—Swinging draw bar, springs in the steering chains, spring hitch, auto sparker and speed changing device are part of the regular equipment.

SPECIFICATIONS—Complete specifications of this tractor will be found on page 32.



INTERNATIONAL GASOLINE TRACTORS



INTERNATIONAL GEAR DRIVE GASOLINE TRACTOR—TYPE C
20-horse power, equipped with continuous axle and 70-inch drive wheels
Complete specifications will be found on page 32



INTERNATIONAL GASOLINE TRACTORS

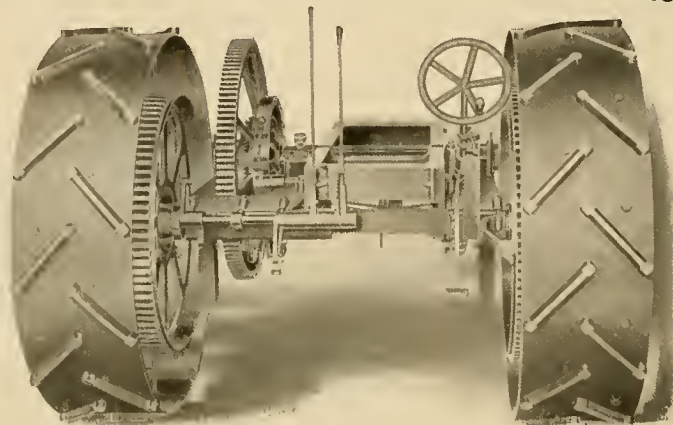


TYPE C GEAR DRIVE TRACTOR

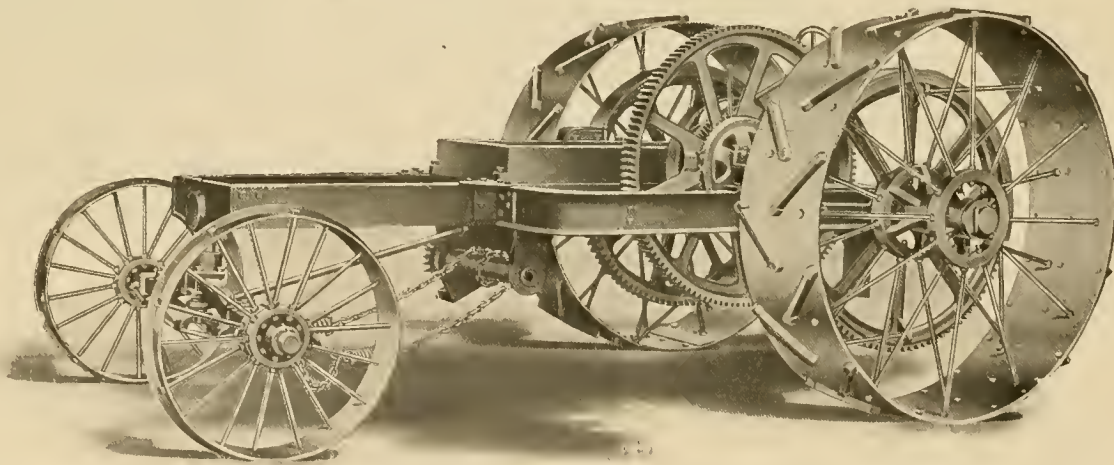
This tractor differs from types A and B in the following respects: Instead of a gear drive both forward and reverse, it has a gear drive forward and a friction reverse. The drive wheels are 70 inches in diameter and mounted on a continuous axle.

ENGINE—The engine is the single cylinder, 4-cycle Famous gasoline engine. All parts of this engine are constructed with a view to durability, simplicity and accessibility. The parts are generous in proportion, insuring ample strength for every purpose, yet neat and practical in design. The cooling arrangement includes a screened cooling tower, mounted on the front end of the truck, and a plunger type circulating pump on the engine which pumps a continuous flow of water through the water jacket. This arrangement is particularly desirable because only a small amount of water is required for a day's work.

MOUNTING—The mounting is very substantial and rigid. The frame consists of channel-steel sills which are continuous from the front to the rear. These sills are reinforced by additional sills at the rear which carry the axle castings. The engine is mounted on a special sub-base bolted to the channel-steel sills. The front axle is arched and is trussed by two heavy rods. The rear axle is made of special steel, 4 x 4 inches and is continuous through both drive wheels. The weight on the frame is so distributed that the maximum tractive power is produced.



Rear view of the type C tractor mounting



Mounting of the type C tractor
Note the powerful main frame, large wheels and gears



INTERNATIONAL GASOLINE TRACTORS

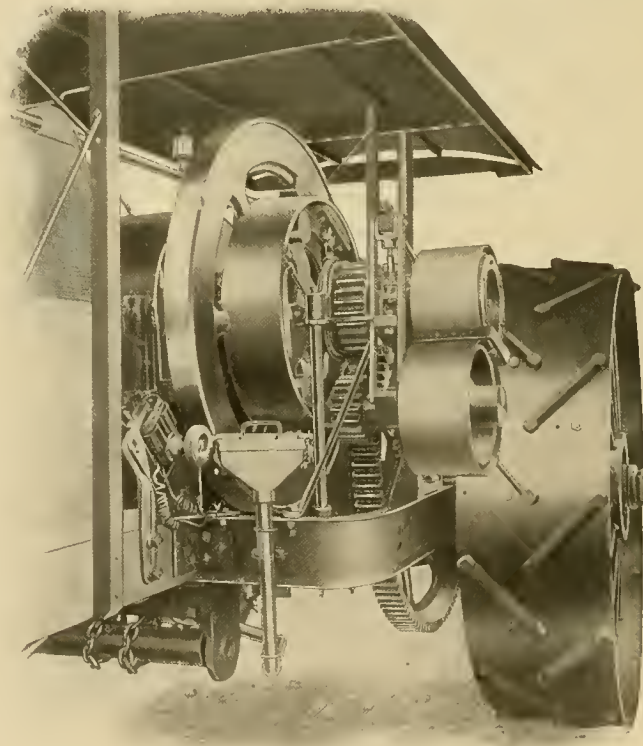


GEARS—Power is transmitted through only two sets of pinions and gears from the crank shaft to the drive wheels. The movable pinion on the crank shaft drives the differential gear on the countershaft and the two pinions on the ends of the countershaft drive the large gears on the drive wheels. In this way power is equally distributed to both drive wheels. Pinions are made of steel, while the large gears are cast in order to insure maximum wearing qualities. The countershaft is tied to the continuous axle by exceptionally heavy castings which provide three wide bearings for the shaft. Particular attention is called to this construction because it insures such rigidity that the gears can never get out of alignment and cut. Each bearing is provided with a hard oiler which is easily accessible. All gears are well encased to prevent accident.

FRICTION REVERSE—The friction reverse makes it possible to throw in the reverse while the machine is moving without danger of stripping gears. This construction also eliminates an intermediate gear.

CLUTCH—Only one friction clutch is used to transmit power from the crank shaft to the gears. This clutch has three shoes with large friction blocks which engage the metal surface of the pulley. This insures a positive grip which enables the gears to be started slowly or rapidly. No matter how suddenly the clutch is thrown in, there is no danger of breakage because the large coiled springs, one of which is placed behind each clutch shoe, take up the sudden jerks.

DRIVE WHEELS—The drive wheels are 70 inches in diameter with a 20-inch face. The hubs have 20-inch bearings and the spokes are set in the hub so that they are easy to adjust. The lugs are attached with spring lock washers and nuts and are easily removed.



Detail view showing gears of the type C tractor. Note the convenient location of the filling pipe with funnel top, also the location of the auto sparker

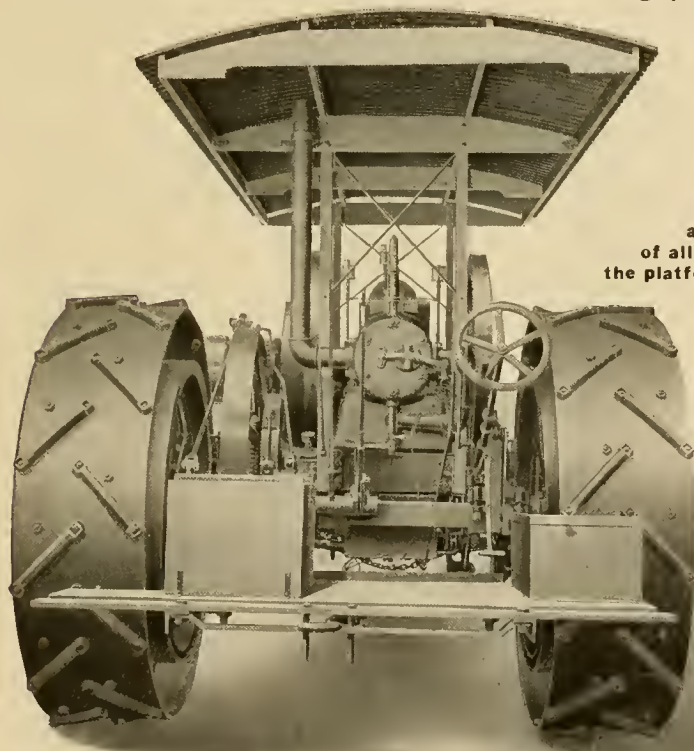


INTERNATIONAL GASOLINE TRACTORS



COOLING ARRANGEMENT—The engine is water cooled. The water is forced through the jacket and over a screen cooling tower by means of a plunger type circulating pump. The galvanized screen may be easily removed from the tower when necessary, and renewed.

One of the most desirable features of this cooling system is the fact that only a small amount of water is required. This cooling system is well adapted for use in cold climates because the engine and tank may be drained at night to prevent freezing.



Note the
accessibility
of all parts from
the platform

OPERATING LEVERS—There are two operating levers placed convenient to the driver, one for forward and one for reverse. The steering rod is provided with a clutch so that the rod may be dropped out of the way when it is necessary to reach the side of the engine. The brake on the differential gear on the countershaft is operated by a foot lever.

CONVENIENCE AND ACCESSIBILITY—One of the very desirable features of this tractor is its convenience. The platform is roomy and strongly reinforced by steel strips. The tool box is large. The filling pipe is located at the side of the engine and forward. It is only waist high and so accessible that filling the fuel tank may be very easily done. This pipe has a special funnel top with a patented spring cover. The auto sparker is conveniently located out of the way of all gears. There is ample room on either side of the engine for the operator to stand if necessary.

EQUIPMENT—Swinging draw bar, spring hitch, mud lugs, auto sparker and speed-changing device are part of the regular equipment.

Rear view of type C tractor showing the roomy platform and the space on each side of the engine to permit the operator to reach all parts. Note the convenient location of the levers, steering wheel and foot brake

SPECIFICATIONS—Complete specifications of this outfit will be found on page 32.



INTERNATIONAL GASOLINE TRACTORS



FOR GENERAL FARM WORK

The farmer who buys an International tractor finds that he has many opportunities for using this power to advantage. There is hauling and plowing to be done and there are many large machines to operate, such as huskers, shredders, threshers, shellers, grinders, fodder cutters and others. The advantage of the tractor is that it proves to be economical, not only when hauling or plowing, but equally economical when used for belt work. The tractor not only hauls the machines to the various jobs, but when set and ready for work, it possesses all the advantages which can be claimed for gasoline engine power.

One man in Walla Walla, Washington, who bought an International tractor, uses his machine for moving houses, and says that he is more than pleased with the change from animal power to International tractor power. Another man in the South, who used to draw his cotton to sea-board by ox teams, has purchased a tractor. He says that he will never again use oxen because his tractor gives such satisfactory service.

A farmer in Canada not only draws his plows, but also his harrows and land packers, accomplishing practically three tillage operations in one. When seeding time comes, his tractor draws the drills, and when grain is ready to cut, it pulls his binders.

In short, the uses to which an International tractor may be put are so many that they do not come to mind until a man actually uses one of the machines. It is then that he finds his tractor a wise investment throughout the year.

The table below gives information regarding the sizes of tractors to use with various machines :

MACHINE				MACHINE			
			H. P.				H. P.
4-roll Deering husker and shredder	-	-	12	24 x 24-inch Belle City thresher (with attachments)			15
6-roll Deering husker and shredder	-	-	15	24 x 32-inch Belle City thresher (with attachments)			20
4-roll McCormick husker and shredder	-	-	12	32 x 32-inch Belle City thresher (with attachments)			20
6-roll McCormick husker and shredder	-	-	15	32 x 40-inch Belle City thresher (with attachments)			20
10-roll Plano husker and shredder	-	-	20	4-hole Keystone sheller	-	-	12
8-roll McCormick husker and shredder	-	-	20	6-hole Keystone sheller	-	-	12



International 20-horse power tractor pulling two Weber Wagons loaded with cotton. The combined weight of these two loads, including the wagons, is over 15,000 pounds. This photograph was taken near New Orleans, La.



INTERNATIONAL GASOLINE TRACTORS



A 20-horse power International tractor on the farm of James Graham, Bradwardine, Manitoba, operating a large 27x42 inch separator



A 20-horse power International tractor on the farm of S. Nicholson, Bradwardine, Manitoba, operating a large 28x42 inch separator



POWER FOR THRESHING

The illustrations on the opposite page show two well known makes of large separators being operated by International tractors.

The illustration on this page shows an International tractor operating a Belle City thresher.

As a power for threshing, the International tractor has certainly demonstrated that it is the best.

No time is lost in starting the International tractor to the next job, and in the morning it is unnecessary to arise at 4 or 5 o'clock to get up steam in time to start several hours later. The International tractor is ready to go when the spark is set off. This engine can travel by the shortest route, because it is not necessary to go many miles out of the way to avoid unsafe bridges, as is often the case with a heavy steam outfit.



An International tractor operating a Belle City thresher

Another decided advantage of the gasoline engine for threshing power is that the engine does not require continual attention, consequently the time can be given to the separator. Steam engines require one man's constant attention. Again, the operator of a gasoline engine does not have to work in excessive heat like he does when operating the steam outfit.

An International tractor in connection with the Belle City thresher, makes an ideal individual thresherman's outfit.

The thresher requires a small amount of power and being of moderate weight, it can be moved easily.

It not only meets the requirements of the individual farmer, but also those who wish to club together and have an outfit to take care of their combined jobs. The machine is light, compact, of good capacity, does excellent work, and requires very little power for operation—practically no extra help is required to operate the outfit.

No expert is required to operate the thresher, and no special man needs to give his attention to the tractor.

With the Belle City thresher and an International gasoline tractor, the farmer is protected against profit-reducing conditions; he is not dependent upon some one else to do the threshing; he does not have to pay back his neighbor for additional help; he does not have to cook for the large threshing crew, and he does not lose a large amount of grain in the straw stack due to the crew whose aim is to get through with the job quickly.



INTERNATIONAL GASOLINE TRACTORS



International tractor pulling a road grader. No stopping for fuel or water and no time lost

POWER FOR ROADMAKING MACHINES

The International gasoline tractor is one of the most efficient powers for operating roadmaking machines. This tractor attached to a road grader moves along at an even speed so that the operator of the grader can maintain the proper slope of the roadway, and carry the dirt evenly and smoothly at all times. One of the most desirable features in the use of this power is its economy. It requires but one man to operate the tractor—and he does not have to be an experienced engineer. Anyone can, within a short time, learn to operate the machine satisfactorily and keep it in good working condition. All parts are accessible for cleaning or adjustment. Another big item in economy is the small amount of fuel required. One commissioner of highways turnpiked forty miles of road in thirty-five days, consuming 385 gallons of gasoline—about eleven gallons per day, and less than ten gallons per mile of actual road work.



INTERNATIONAL GASOLINE TRACTORS



The amount of work which can be accomplished in a day with this tractor recommends it very strongly to all engaged in roadmaking. A user of an International tractor stated that when he started out in the morning with other outfits that were using steam, they would work together for a while, but the steam outfit would soon be obliged to stop for refilling the water tank and taking on more fuel, while the gasoline tractor kept on working. He estimated that he was able to do at least 25 per cent more work with the gasoline tractor than others could do with their steam outfit, because they had to stop so often for fuel and water; besides, the gasoline tractor was ready to start in the morning without being steamed up.

H. W. Cadwell of Jordanville, N. Y., in speaking of Mr. Gay's road grader and International tractor, says :

"I have just had a talk with the road commissioner regarding traction engine working the roads, have talked also with Mr. Gay, and he has promised to write you, but I will say this: I consider the traction gasoline engine a long way ahead of steam. Mr. Wainman, our road commissioner, says that this engine of Mr. J. C. Gay's is the only practicable power for working the roads, because it will draw the road machine to cut a good deep ditch the first time over, and the next time it cuts the shoulder and makes a good clean job."

Elmer Rapalee, Commissioner of Highways, Dundee, New York, writes us regarding his International outfit, and among other things, says :

"The engine did excellent service, and was used by me for such road work and for threshing later in the season without injury or repair. I have used a steam traction engine and owned one for the past twenty years. In fact, during that time have owned and used three steam traction engines. Last spring I used a 16-horse power steam traction engine in connection with the road work, to assist, and the gasoline engine did double the work the steam engine did, in the same length of time.

The Road Inspector from the office of the State Engineer and Surveyor inspected my road work last summer, in company with Hon. C. C. Harvey, our Supervisor, and the Inspector told me that he should recommend the use of similar gasoline engines to other Commissioners, for the reason that I had accomplished more work, with less expenditure of money, than any road district he had ever visited."

Road Commissioners who have had experience with both steam and gasoline outfits unhesitatingly recommend the gasoline tractor as the most desirable outfit in many ways.



INTERNATIONAL GASOLINE TRACTORS



SPECIFICATIONS OF INTERNATIONAL TRACTORS

	D R I V E	RATED HORSE POWER	CYLINDERS			R. P. M.				PULLEY		Drive Wheels		TOTAL WIDTH	SPEEDS—MILES PER HOUR	CAPACITY, GASO. TANK, GALS.	CAPACITY, WATER TANK, GALS.	NET WEIGHT—LBS.	APPROXIMATE HAULING LOAD ON A 10 PER CENT GRADE—LBS.	Plows Pulled	
						ENGINE		PULLEY												NUMBER	SIZE—INCHES
			NUMBER	DIAMETER	STROKE	FROM	TO	FROM	TO	DIA.—INCHES	FACE—INCHES	DIA.—INCHES	FACE—INCHES								
12-H. P. Type A Two Speed	Gear Forward Friction Reverse	12	1	7½	12	300	350	300	350	16 to 38	8½ to 9½	56	16	7' 4"	2 to 3.5	25	58	9000	12000	2	16
15-H. P. Type A	Gear	15	1	8	14	250	300	250	300	16 to 40	8½ to 9½	56	18	7' 6"	1.75 to 2.50	25	58	9900	15000	3	12
20-H. P. Type A	Gear	20	1	8¾	15	240	290	240	290	16 to 40	8½ to 9½	56	18	8' 6"	1.75 to 2.50	25	58	12000	18000	4	14
20-H. P. Type B	Gear	20	1	8¾	15	240	290	240	290	16 to 36	10½	64	18	8' 6"	1.75 to 2.50	25	58	12600	20000	4	16
20-H. P. Type C	Gear Forward Friction Reverse	20	1	8¾	15	240	290	240	290	16 to 40	10½	70	20	8' 5"	1.75 to 2.50	25	58	13500	20000	4	16



